

**NARRATIVE SUMMARY
FOOTPRINT ANALYSIS
PERRY POINT ENHANCED USE INITIATIVE**

VISN: VISN 5

Facility Name: VA Maryland Health Care System, Perry Point

Affected Facilities: Perry Point

A. Summary and Conclusions

Executive Summary

Perry Point, which consists of 364 acres, has been evaluated for potential enhanced use of excess land. There exists the possibility that an additional 109 acres that was excessed to Perryville in 1990 could be reacquired to increase the total land available for enhanced use options. The campus can be consolidated, which will increase enhanced use option potential. This will provide benefits and cost savings in energy consumption, grounds and building maintenance, and functional efficiencies. At this time, there are no specific uses for which the VA would direct an Enhanced-Use contractor to redevelop the property. However, the site lends itself to numerous residential, recreational and business type activities that would provide benefits to both the VA and the surrounding community. Alternative #1 has been selected as the preferred alternative. It is the most cost effective alternative of the three that provide enhanced use lease potential. Alternative 1 provides for a much needed replacement nursing home and frees up 229 - 264 acres of land for enhanced use lease opportunities. Alternative 1 will allow use of the recently constructed buildings 361, 364 and an addition to building 80. These buildings are concentrated in the area to be retained in alternative 1.

Drawings have been developed which provide conceptual representations of how the property could be divided for VA and enhanced lease use. Acreage and building locations depicted on the drawings represent some general layouts showing that it is feasible to reduce the space and infrastructure required by the VA and provide sufficient acreage to be attractive for use by enhanced use contractors.

The three alternatives that have been developed include:

- **Alternative 1 - Construction of a new nursing home and renovation of several buildings** - The core of existing patient care buildings on the campus would be utilized. The number of buildings would be reduced to less than 30. New construction would consist of a 130 Bed Replacement Nursing Home, a building to consolidate outlying patient care functions and a 23 bed

compensated work therapy transitional residency. In addition, four patient care buildings would be renovated. Most of the remaining buildings could be demolished except for two historic buildings, the firehouse and water system buildings.

- **Alternative 2 - Retention and utilization of the newer patient care buildings together with some new construction** - This alternative maintains acres situated in the middle of the current campus. It allows us to maintain the three most recently constructed patient care buildings, which would continue as patient care use. New construction will address the workload and bed requirements as forecasted by CARES. This alternative also relies on existing water supply and utility systems and would allow for most of the remaining buildings to be demolished with the exception of the firehouse and historic buildings.
- **Alternative 3 - Vacate all current buildings and constructs a complete replacement facility** - This alternative provides for relocation of all inpatient and outpatient services to a new 475 bed facility on the northwestern corner of the campus, thereby leaving the entire waterfront location available for an enhance use project. All construction will be new with the exception of water supply system buildings, the firehouse and historic buildings.

	VA Use	Enhanced-Use
Alternative 1	100-135 acres	229-264 acres
Alternative 2	40-60 acres	304-324 acres
Alternative 3	40-50 acres	310-320 acres

Current environment

The Perry Point facility is a campus style facility located adjacent to the Town of Perryville on 364 acres. See attachment A for description of current conditions.

Workload Summary

This is an infrastructure related initiative (footprint realignment study) and does not affect the workload over the duration of the period considered.

Authorized Beds	Hospital		NHC		Dom		PRRTP		Total	
	Current	New	Current	New	Current	New	Current	New	Current	New
Operating	196	0	130	0	50	0	121	0	497	0
Unavailable	0	0	0	0	0		0	0	0	0
Authorized	196	0	130	0	50	0	121	0	497	0

Hospital Bed Service	Total Operating Beds		Unavailable Beds						Total Authorized Beds	
			Construction		Recruitment		Workload			
	Current	New	Current	New	Current	New	Current	New	Current	New
Internal Medicine	14	0	0	0	0	0	0	0	14	0
Neurology	0	0	0	0	0	0	0	0	0	0
Surgery	0	0	0	0	0	0	0	0	0	0
Subtotal	14	0	0	0	0	0	0	0	14	0
Spinal Cord	0	0	0	0	0	0	0	0	0	0
Blind	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	0	0	0	0
Rehab Medicine	0	0	0	0	0	0	0	0	0	0
Intermediate	67	0	0	0	0	0	0	0	67	0
Psychiatry	115	0	0	0	0	0	0	0	115	0
Subtotal	182	0	0	0	0	0	0	0	182	0
Total Hospital Beds	196	0	0	0	0	0	0	0	196	0
Nursing Home	130	0	0	0	0	0	0	0	130	0
Domiciliary	50	0	0	0	0	0	0	0	50	0
PRRTP (Residential Care)	121	0	0	0	0	0	0	0	121	0
Total Long Term Beds	301	0	0	0	0	0	0	0	301	0
Total Beds	497	0	0	0	0	0	0	0	497	0

Proposed Realignment:

This is an infrastructure (footprint realignment) project, not a workload realignment project. The objective of this realignment is to look at options for reconfiguring the buildings on the property of the Perry Point facility to maximize the potential for enhanced use lease opportunities.

	VISN 5 - Perry Point						
2022	SF reserved vacant	SF to be demolished	SF to be divested	SF to be outleased	SF to be donated	EU building SF	EU Acres
Existing Market Plan 2022	58,231	130,946	-	242,544	-	-	-
Alt # 1	-	6,868	-	-	-	509,228	229
Alt # 2	-	6,868	-	-	-	1,059,130	304
Alt # 3	-	6,868	-	-	-	1,137,074	310

B. Analysis

Current Physical Condition

Refer also to attachment A and chart below for current physical condition of buildings and utility systems.

2001 Baseline Data	VISN 5 - Perry Point							
Facility Name	Campus Acreage	Original Bed Capacity (Beds)	Number of Vacant Bldgs	Number of Occupied Bldgs	Vacant Space (SF)	Average Condition Score	Annual Capital Costs *	Valuation of Campus (AEW)
Perry Point, MD	365	1200-1600	1	158	60,132	3.9	\$154,163,615	\$1,900,000

In 1988 beds were 901 beds.

Impact considerations

- **Capital** - The preferred alternative is Alternate #1, which has the least required capital costs and will enable the VA to continue use of newly constructed buildings. Alternative 1 provides for a much needed replacement nursing home and frees up 229 - 264 acres of land for enhanced use lease opportunities. Alternative 1 also includes renovation of existing buildings.

Capital Costs Summary					
	Status Quo	Original Market Plan	Alternate 1	Alternate 2	Alternate 3
Facility Being Reviewed: Perry Point					
New Construction	-	\$ 10,567,005	\$ 15,569,449	\$ 76,116,847	\$ 89,366,192
Renovation	-	\$ 4,319,428	\$ 4,319,428	\$ 1,336,189	\$ 0
Total	-	\$ 14,886,433	\$ 19,888,877	\$ 77,453,036	\$ 89,366,192

- **Operating costs** - Alternative #1 has been selected as the preferred alternative. It has the best Net Present Value of the three alternatives that provide enhanced use lease potential. Alternative 1 frees up 229 - 264 acres of land for enhanced use lease opportunities. Alternative 1 will allow use of the recently constructed buildings 361, 364 and an addition to building 80.

10-29-2003 Run	VISN 5 - Perry Point VAMC				
	Status Quo (Plus capital)	Original Market Plan	Alt 1	Alt 2	Alt 3
Years 2004-2022					
Operating Costs	\$1,416,181,831	\$1,474,708,442	\$1,473,568,896	\$1,454,096,785	1,453,844,173
Non-Recurring Costs	\$154,163,615	\$15,997,702	\$18,763,063	\$75,665,159	\$72,486,266
Life Cycle Cost	\$1,570,345,446	\$1,490,706,144	\$1,492,331,959	\$1,529,761,944	\$1,526,330,439
Net Present Value		\$79,639,302	\$78,013,487	\$40,583,502	\$44,015,007

Updated Numbers 10-29-2003

NOTES:

Alt 1 Revenue: 229 acres at AEW land value (30 year amortized) = \$139,767 per year

Alt 2 Revenue: 304 acres at AEW land value (30 year amortized) = \$265,941 per year

Alt 3 Revenue: 310 acres at AEW land value (30 year amortized) = \$274,689 per year PLUS

125,000 SF buildings at \$17.30SF (FMS lease cost) = \$2,162,500

Total annual revenue = \$2,437,189

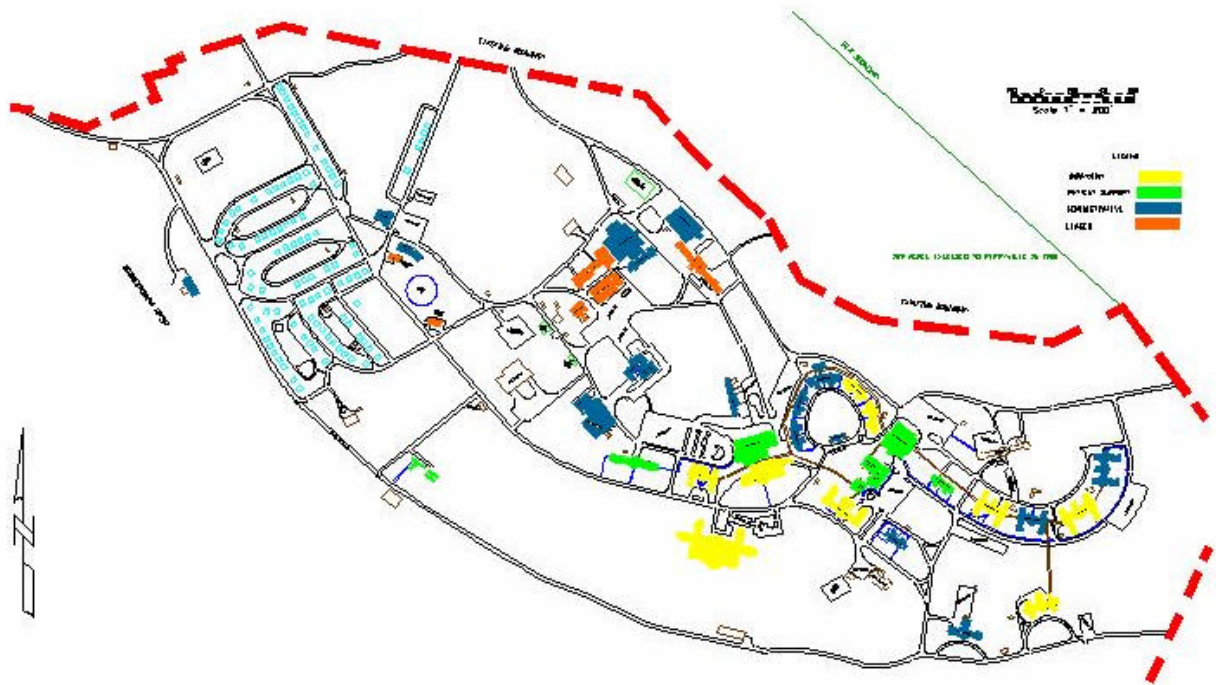
Previous Summary	VISN 5 - Perry Point VAMC				
	Status Quo (Plus capital)	Original Market Plan	Alt 1	Alt 2	Alt 3
Years 2004-2022					
Operating Costs	\$1,416,181,830	\$1,399,258,338	\$1,393,214,391	\$1,324,201,268	1,316,858,407
Non-Recurring Costs	\$154,163,615	\$15,997,702	\$18,763,063	\$75,665,159	\$72,486,266
Life Cycle Cost	\$1,570,345,445	\$1,415,256,040	\$1,411,977,454	\$1,399,866,427	\$1,389,344,673
Net Present Value		\$155,089,405	\$158,367,991	\$170,479,018	\$181,000,772

- **Human resources** - There should be no significant change in staffing levels.
- **Patient care issues and specialized programs** - No changes are anticipated in the types of Patient Care programs. Significant improvements will be made in the infrastructure and environment, which will greatly enhance delivery of patient care and patient safety issues. Consolidating and centrally locating services will resolve such issues as distance from available supplies, meals and direct patient care staff.
- **Impact on Research and Academic Affairs** - No changes anticipated to the current status.

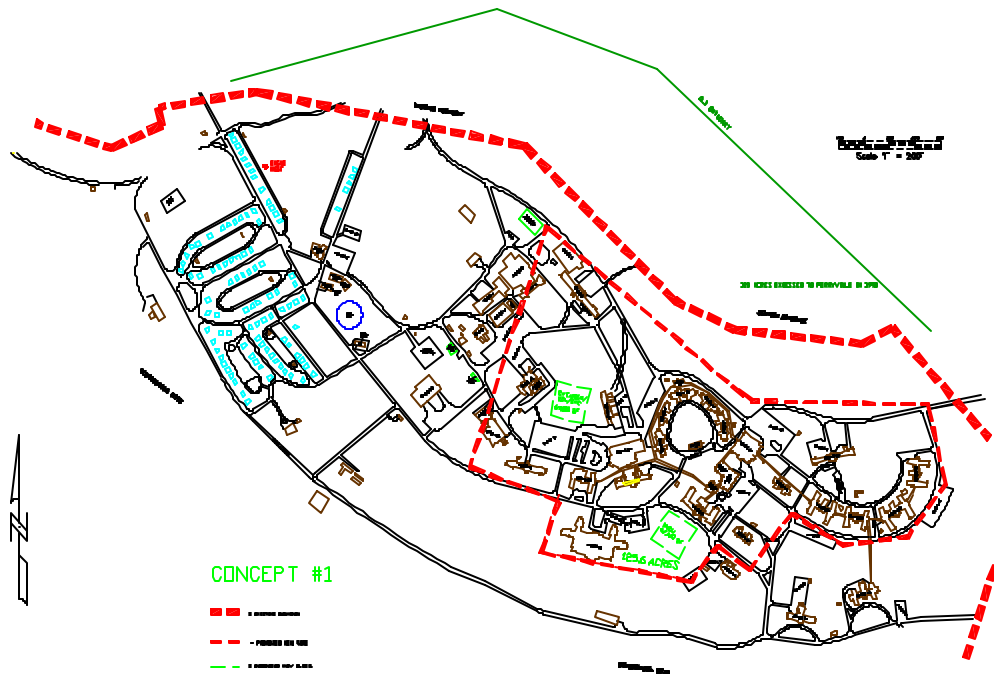
- **Reuse of the Realigned Campus** - The selected alternative (Alternative 1) frees up 229 – 264 acres of land for enhanced use lease opportunities which will be used to raise revenue for improvements to the patient care areas.
- **Summarize Alternate Analyses**

VISN 5 - Perry Point					
Preferred alternative description and rationale:	Alternative #1 has been selected as the preferred alternative. It is the most cost effective alternative of the three that provide enhanced use lease potential. Alternative 1 provides for a much needed replacement nursing home and frees up 229 - 264 acres of land for enhanced use lease opportunities. Alternative 1 will allow use of the recently constructed buildings 361, 364 and an addition to building 80. These buildings are concentrated in the area to be retained in alternative 1.				
	Status Quo	Original Market Plan	Alternate # 1	Alternate # 2	Alternate # 3
Short Description:		Construction of a new nursing home and renovation of several buildings.	Alternative 1 - Construction of a new nursing home and renovation of several buildings. The core of existing patient care buildings on the campus would be utilized. The number of buildings would be reduced to less than 30. New construction would consist of a 130 Bed Replacement Nursing Home, a building to consolidate outlying patient care functions and a 23 bed compensated work therapy transitional residence. End 242,544 SF outleased and enhance use lease 229 acres.	Alternative 2 - Retention and utilization of the newer patient care buildings together with some new construction - This option maintains acres situated in the middle of the current campus. It allows us to maintain the three most recently constructed patient care buildings, which would continue as patient care use. New construction will address the workload and bed requirements as forecasted by CARES. This option also relies on existing water supply and utility systems and would allow for most of the remaining buildings to be demolished with the exception of the firehouse and historic buildings. End 242,544 SF outleased and enhance use lease 304 acres.	Alternative 3 - Vacate all current buildings and constructs a complete replacement facility - This option provides for relocation of all inpatient and outpatient services to a new 475 bed facility on the northwestern corner of the campus, thereby leaving the entire waterfront location available for an enhance use project. All construction will be new with the exception of water supply system buildings, the firehouse and historic buildings. End 242,544 SF outleased and enhance use lease 310 acres and 125,000 SF.
Total Construction Costs		\$ 14,886,433	\$ 19,888,877	\$ 77,453,036	\$ 89,366,192
Life Cycle Costs	\$1,570,345,446	\$1,415,256,040	\$1,411,977,454	\$1,399,866,427	\$1,389,344,673
New LCC (If any)		\$1,490,706,144	\$1,492,331,959	\$1,529,761,944	\$1,526,330,439
Impact on Access		None	None	None	None
Impact on Quality		Replacement Nursing Home to improve condition scores.	Only portions of existing 1920-1940 vintage buildings replaced.	1920-1940 vintage buildings will be replaced with modern state-of-the-art buildings	1920-1940 vintage buildings will be replaced with modern state-of-the-art buildings
Impact on Staffing & Community		None	Staffing - None. Community - Enhanced use option selected to be compatible with surrounding community.	Staffing - None. Community - Enhanced use option selected to be compatible with surrounding community.	Staffing - None. Community - Enhanced use option selected to be compatible with surrounding community.
Impact on Research and Education		None	None	None	None
Optimizing Use of Resources		No enhanced use lease opportunities identified. 242,544 SF continues to be outleased.	Some out-of-date buildings would be retained for use.	Will enable use of existing and planned state-of-the-art buildings and replace those that are not.	Would not make use of current state-of-the-art buildings.
Support other Missions of VA		N/A	N/A	N/A	N/A
Other significant considerations (burial grounds, historic, existing ELL's, etc)		Historic sites will remain intact	Historic sites will remain intact	Historic sites will remain intact	Historic sites will remain intact

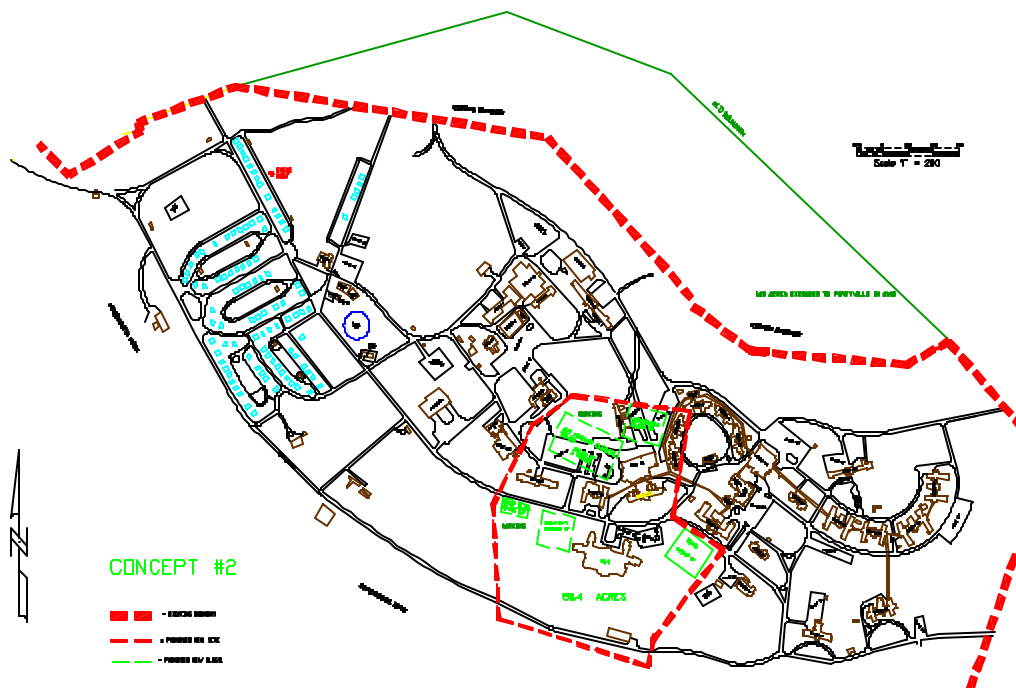
Site Plan



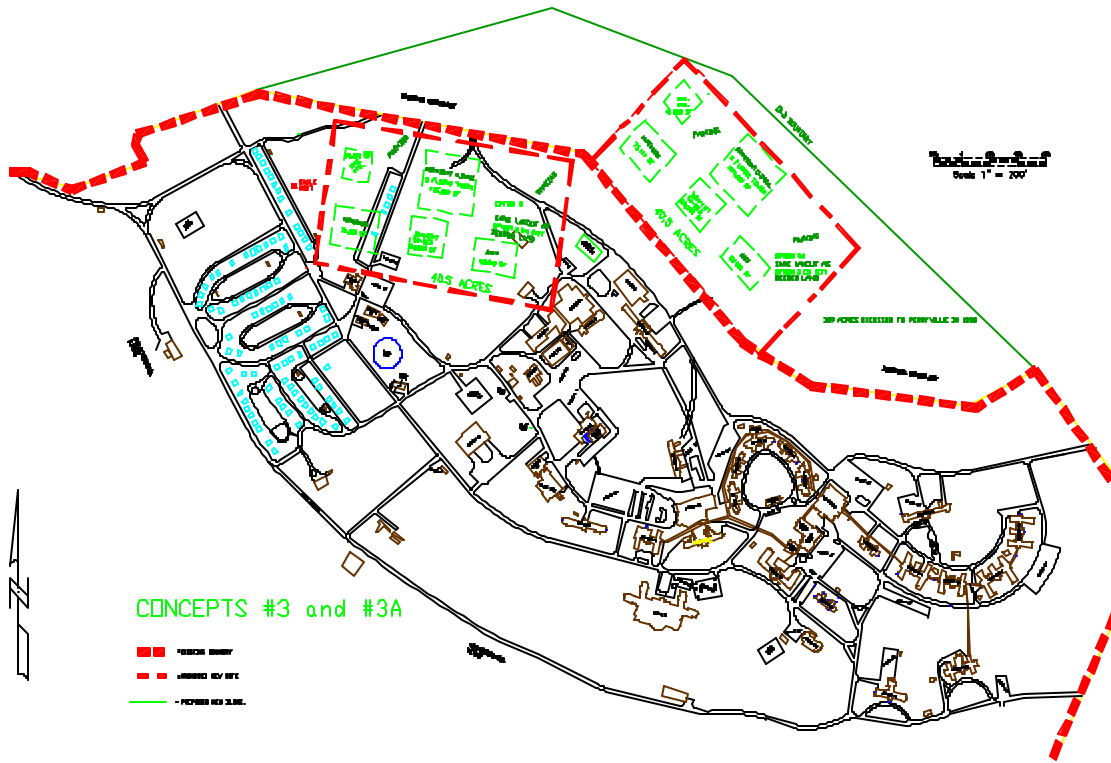
Preferred Alternative (Alternative 1) – Replacement Nursing Home and Renovation of Current Buildings (Net Present Value = + \$78M)



Alternative 2 – Replacement Nursing Home, Some New Construction and Retention of Newer Current Buildings (Net Present Value = +41M)



Alternative 3 – Complete Replacement Facility (Net Present Value = +\$44M)



PERRY POINT BUILDING ANALYSIS

BUILDING 9H:

GSF= 81,455

USE: NURSING HOME (80 BED)

YR. BUILT: 1924

ROOF: New roof was installed in 1994.

WINDOWS: Windows are single glazed original windows in poor condition.

EXTERIOR FINISH: Stucco exterior with painted surface are spalled and cracking in numerous places. Should be repaired with exterior insulation system like building 80.

INTERIOR FINISHES: Interior last renovated in 1977. Areas are fairly well maintained but old and not attractive leaving rather dismal atmosphere.

HANDICAP ACCESS: Access is limited to entrance from rear corridor system. Exterior ramp is too long for current ADA compliance. Private patient baths not ADA compliant.

FIRE/SAFETY: Basement is not sprinklered but will be done this fiscal year in an NRM project. Stairwells in main corridor not separated properly from corridors.

PLUMBING: Steam lines and some drains are original piping.

HVAC: System installed in 1977. Does not have adequate air changes nor adequate temperature controls.

ELECTRICAL: Main electrical panels over 30 years old. Other work installed 1977.

FIRE ALARM: Existing system over 30 years old. Repair parts hard to find.

STRUCTURAL: Basement leaks ground water, usually wet and unusable. It is currently vacant except for some storage.

RECOMMENDATIONS: Building is due a complete renovation including interior, exterior, windows and all utility systems. Estimated cost is \$7,000,000 to \$10,000,000 for construction with a design cost of \$900,000 to \$1,300,000. The preferred alternative is to replace building 9H and relocate its patients along with those in 14H into a new 130 bed NHCU. The estimated cost for this is \$30,000,000 including demolition of 9H. The vacant space in 14H will be backfilled by relocating Mental Health patients from 24H to 14H.

BUILDING 10H:

GSF= 24,031

USE: DAY TREATMENT CENTER

YR. BUILT: 1924

ROOF: Roof is original slate and in bad condition. Leaks often and is hard to repair.

WINDOWS: Original wood frame windows with single glazing. Some have been sealed up. All need to be replaced.

EXTERIOR FINISH: Walls are hollow clay tile with stucco and paint and are in poor condition.

INTERIOR FINISHES: Finishes are old and in fair condition.

HANDICAP ACCESS: Ramp required to access building. Should be on ground level to accommodate elderly patients who are bulk of program.

FIRE/SAFETY: Sprinkler system is old, should be replaced.

PLUMBING: Much of piping is original to building.

HVAC: There is no central air conditioning. Building is cooled by small units and is not efficient. Heat is steam radiators.

ELECTRIC: Electrical system is in fair condition. Not adequate for addition of any new systems requiring power.

FIRE ALARM: Existing system is over 30 years old. Repair parts are hard to find.

STRUCTURAL: Basement leaks water badly and is unusable space. Exterior and roof also leak water. Requires considerable work to repair.

RECOMMENDATIONS: Building is currently slated for replacement utilizing the remaining funds from the construction of building 364.

BUILDING 15H:

GSF= 28,492

USE: CWT, Vocational Rehab, and Public Relations Office

YR. BUILT: 1924

ROOF: Original slate roof is now over 75 years old and in poor condition. Needs replacement.

WINDOWS: Original steel framed single glazed windows not energy efficient. Need repair. Should be replaced.

EXTERIOR FINISH: Original stucco on hollow clay tile. Numerous cracks. Needs replacement.

INTERIOR FINISHES: Approximately 75% of interior has been recently renovated.

HANDICAP ACCESS: Wheelchair access is limited to rear tunnel entrance. Must climb several stairs in front.

FIRE/SAFETY ISSUES: Sprinkler system exists in most of building. No known deficiencies.

PLUMBING: Most drain lines are original and need replacement.

HVAC: Several air handling units need replacement due to age and unreliability.

ELECTRIC: System is adequate but 30+ years old.

FIRE ALARM: System is 30+ years old. Replacement parts are hard to find.

STRUCTURAL: Building crawl space is accessible to vermin and wild animals due to grade beams that extend just below grade. Rainwater washes under beams and often floods mechanical space. Maintenance is extremely difficult due to limited space to access piping and wiring.

RECOMMENDATIONS: Building exterior needs to be replaced with exterior insulation system like building 80. Crawl space should be excavated and grade beams underpinned like was done in 11H. Five additional air handlers need replacement. Roof and windows should be replaced. Estimated construction cost is \$900,000 to \$1,200,000. Design cost is \$100,000 to \$130,000.

BUILDING 15:**GSF=** 26,544**USE:** NATIONAL CIVILIAN COMMUNITY CORPS, EMS STORAGE, INTERIOR DESIGN OFFICE, IRMS STORAGE.**YR. BUILT:** 1918

ROOF: Roof is low sloped roll roofing installation and is in extremely poor condition often leaking and requiring constant repair.

WINDOWS: Building was constructed as a warehouse and windows are original single glazed hopper type windows. Condition is poor.

EXTERIOR FINISH: Exterior stucco on hollow clay tile. Condition is fair.

INTERIOR FINISHES: Walls are plaster, masonry tile or drywall, ceiling is lay-in tile and pressed board sheathing. Floors are mostly carpet on concrete deck. Condition fair to poor.

HANDICAP ACCESS: Building is accessible by way of a wheelchair lift.

FIRE/SAFETY ISSUES: Mixed occupancy (office and storage) is separated by a firewall. Building is not sprinkled.

PLUMBING: Piping systems were replaced in late 1970's when building was renovated for Director's Suite. Condition is fair.

HVAC: Building is partially cooled by Direct Expansion units which operate independently. Heating is by steam radiators. Controls are not reliable.

ELECTRIC: Electric is adequate for current use. Some wiring is not in conduit so building is not suitable for patient care use.

FIRE ALARM: Building system is old but still operable. Parts are scarce due to age.

STRUCTURAL: No serious structural problems other than roof.

RECOMMENDATIONS: It has been the intent for the past ten years, as far back as the 1991 Facility Development Plan, to demolish this building. Cost range for demolition is \$250,000 to \$350,000. It is recommended that this take place as soon as the existing tenants vacate the building. NCCC is currently leasing space on a year-to-year basis.

BUILDING 19H:

GSF= 56,890

USE: ACUTE MEDICINE INCL. RESPIRATORY AND SSU INPATIENT BEDS. REHAB. MEDICINE CLINICS, CARDIOLOGY CLINIC, REPIRATORY THERAPY, EXTENDED CARE OFFICES.

YR. BUILT: 1931

ROOF: Roof replaced in 1994 and in good condition.

WINDOWS: Original windows were replaced about 20 years ago with vertical pivot windows with double-glazing. Windows are in good condition.

EXTERIOR FINISH: Exterior is stucco on hollow clay tile. Condition is poor in many areas allowing moisture to enter voids in masonry and freeze resulting in more damage.

HANDICAP ACCESS: Wheelchair access either through tunnel system or via ramp to basement in rear.

FIRE/SAFETY ISSUES: Building is totally sprinklered and compartmentalized according to code.

PLUMBING: Most of large drain lines are original piping and in need of replacement.

HVAC: HVAC piping is old and often leaks requiring outages during cooling season in patient care areas in order to make repairs. Air handling system provides minimal air changes in most areas.

ELECTRICAL: System is 30+ years old. Emergency power comes from building 23H emergency generator. This is adequate but is desirable for building to have its own generator.

FIRE ALARM: Fire alarm system is old and repair parts are hard to find.

STRUCTURAL: Building is structurally sound except for exterior stucco. This could potentially cause serious problems in the near future.

RECOMMENDATIONS: Although several recent projects have improved the interior of the building, the serious problems that remain are the exterior finish and the utility systems. Recommend resurfacing exterior with system like building 80 at a cost of \$400,000 to \$500,000 (design in-house) and replacing HVAC and plumbing systems at a cost of \$500,000 to \$650,000 for construction and \$50,000 to \$65,000 for design.

BUILDING 24H:

GSF= 78,934

USE: LONG TERM CARE (PSYCH.), REHAB MEDICINE

YR. BUILT: 1947

ROOF: Roof was replaced in 1994. In good condition.

WINDOWS: Windows are double glazed hopper and vertical pivot type replaced in early 1980's. In good condition.

EXTERIOR FINISH: Exterior is stucco panels installed in late 1970's. Is in fair condition.

INTERIOR FINISHES: Interior finishes have been maintained fairly well but are old and should be upgraded to provide better climate for patient care.

HANDICAP ACCESS: Wheelchair access from front via wheelchair lift and also from connecting corridor to outside.

FIRE/SAFETY ISSUES: None.

PLUMBING: Sanitary drain piping in crawl space is original cast iron piping and is in poor condition. There have been several serious leaks in the past four years resulting in raw sewage spills in the crawl space, which have caused odors in the building and were costly to clean up.

HVAC: System was installed in 1977. There are minimum air changes and temperature control is poor. Heat is from original steam radiators.

ELECTRIC: System is adequate but old. No improvements have been made since 1970's.

FIRE ALARM: System is original. Is adequate but repair parts are difficult to find.

STRUCTURAL: No serious problems.

RECOMMENDATIONS: All utility systems should be replaced. Estimated cost is \$1.7 to \$2.2 million. Interior finishes and perhaps layout of rooms should be changed. Estimated cost is \$2.0 to \$2.6 million. Total construction cost range is \$3.7 million to \$4.8 million. Design cost range is \$450,000 to \$575,000.

BUILDING 25H:

GSF= 78,239

USE: MENTAL HEALTH INPATIENT

YR. BUILT: 1947

ROOF: Roof was replaced in 1994 and is in good condition.

WINDOWS: Windows were replaced in early 1980's with double pane hopper and vertical pivot type windows. These are in good condition.

EXTERIOR FINISH: Exterior is stucco panels installed in late 1970's. Is in fair condition.

INTERIOR FINISHES: Interior finishes have been maintained fairly well but are old and should be upgraded to provide better climate for patient care.

HANDICAP ACCESS: Wheelchair access from front via wheelchair lift and also from connecting corridor to outside.

FIRE/SAFETY ISSUES: None.

PLUMBING: Drain piping and steam piping are original installation and in poor to fair condition. Have not yet had the serious problems encountered in 24H, but pipe is in approximately the same condition.

HVAC: System was installed in 1977. There are minimum air changes and temperature control is poor. Heat is from original steam radiators.

ELECTRIC: System is adequate but old. No improvements have been made since 1970's.

FIRE ALARM: System is original. Is adequate but repair parts are difficult to find.

STRUCTURAL: No serious problems.

RECOMMENDATIONS: All utility systems should be replaced, cost \$1.7 to \$2.2 million. Interior finishes and perhaps layout of rooms should be changed, cost \$2.0 to \$2.6 million. Total construction range is \$3.7 million to \$4.8 million. Design cost range is \$450,000 to \$575,000.

BUILDING 80:

GSF= 48,823

USE: MENTAL HEALTH OUTPATIENT AND ADMIN.

YR. BUILT: 1932

ROOF: The roof was replaced in 1994 and is in good condition.

WINDOWS: Windows replaced in 2000 with thermo-pane aluminum double hung windows.

EXTERIOR FINISH: Exterior re-covered with exterior insulation system in 2000.

INTERIOR FINISHES: Most of building interiors replaced in 1995 after major water leak damaged building interior.

HANDICAP ACCESS: Wheelchair access via lift at rear center building entrance adjacent to parking. Lift was replaced in 1997.

FIRE/SAFETY ISSUES: No issues.

PLUMBING: Piping is in fair condition. Some drain lines are original.

HVAC: HVAC system provides minimal air changes and majority of cooling is done in the rooms resulting in condensation at that point. Air handlers are old, installed in 1977, and several have nearly rusted through in places. The system should be replaced.

ELECTRIC: Electric system is old but adequate. Dual feeder capacity was installed in 2000. There is no emergency generator.

FIRE ALARM: The fire alarm system is 30+ years old. Parts are hard to locate for repairs.

STRUCTURAL: Building is sound structurally.

RECOMMENDATIONS: The improvement needed the most is replacement of the HVAC system. The estimated cost is \$550,000 to \$650,000. Design cost is \$60,000 to \$70,000.

BUILDING 321:

USE: CENTRAL CHILLER PLANT

YR. BUILT: 1979

HVAC: Number two chiller has recently been replaced with a new, high efficiency unit. Number one chiller is 24 years old and is no longer operable due to internal damage. There is a project scheduled for FY2004 to replace chiller number one. This will complete the replacement and capacity increase needed to maintain proper cooling in all buildings, including the upcoming new Nursing Home Care Unit.

RECOMMENDATIONS: Not required.

CONNECTING CORRIDORS:

GSF: 24,000

USE: INDOOR TRAVEL BETWEEN BUILDINGS

YR. BUILT: 1964

ROOF: Roofs in corridors between 19H and 23H, and between 23H and 314 are in poor condition and leak in many locations.

WINDOWS: Windows are adequate.

INTERIOR FINISH: A recent project replaced floor tile and wall paint in about one half of the tunnel system. Areas from 17H to 25H (including basement corridors in 13H, 14H, 24H and 25H), and from 13H to 22H still need work.

EXTERIOR FINISH: Tunnels are brick construction with painted surface on exterior. Some paint is peeling off and needs to be scraped and re-painted. Expansion joints in areas around circle wards are in poor condition in walls and walls have cracked due to excessive expansion and contraction. These areas need to be repaired.

HANDICAP ACCESS: All entrances and exits are at grade and suitable for wheelchairs.

FIRE/SAFETY ISSUES: Leaking roofs cause slippery floors in areas between 19H and 314.

PLUMBING: N/A

HVAC: Tunnels are not air-conditioned. Heat is adequate.

ELECTRIC: Lighting is adequate.

FIRE ALARM: N/A

STRUCTURAL: Some cracking and damage to expansion joints in walls around circle wards.

RECOMMENDATIONS: Replace roof from building 19H to building 314. Remove wall sections at damage expansion joints and replace cracked masonry and expansion joints down to footers. Add expansion joints to compensate for excess expansion. The estimated cost for this work is \$500,000 to \$700,000 for construction and \$70,000 for design. Complete replacement of floor tile with tinted epoxy grout in corridors between buildings. Replace floor tiles within buildings, paint walls and replace ceiling tiles in all areas not already done. Cost range is \$150,000 to \$225,000 (design in-house).

ROADS: Roads are overall in fair to good condition. There are some locations such as 6th Street and First Street at the main entrance where numerous potholes require frequent repair.

RECOMMENDATIONS: These areas should be cut out and re-paved or over-laid with asphalt topping. Estimated cost is \$75,000 to \$125,000.

STEAM PLANT/DISTRIBUTION: The steam plant was built and activated in 1969. Although it is well maintained and reliable, it is not state-of-the-art due to its age and some upgrades should be done to improve efficiency and control of operation. The distribution system varies in age. Many sections date back to 1918 when Atlas Powder Company developed the site during WWI. The newest section near building 361 was installed in 1991. Most of the system is asbestos insulated steel pipe in a concrete trench with removable covers that runs underground between the Boiler Plant and the various buildings. This system is inefficient in that ground water leaks into the trench and much steam is wasted “cooking” ground water instead of reaching the buildings for which it is intended.

RECOMMENDATION: Replace the distribution system with pre-engineered, sealed system such as is manufactured by Ricwil or Permapipe. This work would be done in phases and run parallel with the existing system making final connections on either end to avoid long outages. Estimated cost is \$2 to \$2.5 million for construction and \$250,000 to \$280,000 for design. The boilers themselves should be replaced and have been on the 5-year construction plan for several years. The estimated cost is \$1.1 to \$1.5 million for construction and \$130,000 to \$175,000 for design.

SANITARY SYSTEM: The sanitary system has had three construction projects to replace old, deteriorated underground pipe. There are still two more phases of construction required to complete the replacement. There has been significant reduction in the amount of ground water infiltration into the system, which resulted in high sewage treatment bills. For the past two years our bills have been under budget.

RECOMMENDATIONS: Continue with phases 4 and 5 to complete the rehabilitation of the sanitary system. The estimated cost of each phase is \$300,000 to \$400,000 for a total of \$600,000 to \$800,000. Design costs range from \$75,000 to \$85,000.

WATER DISTRIBUTION SYSTEM: The water distribution system consists of several miles of underground pipe along with an elevated water tower, filtration plant and water pumping station. Recent projects have rehabilitated the pumping station, replaced filters and repaired settling basins in the filtration plant, and replaced 7000 feet of underground pipe. There is an on-going project which is constructing a new clear-well for holding filtered water prior to pumping into the system. There is also a designed project to repair the elevated water tank, repair the filtration plant structure, and replace about 5000 more feet of underground pipe.

RECOMMENDATIONS: Fund the designed project which is estimated at \$720,000. Proceed with two more phases of underground pipe replacement to complete the water main upgrades at a cost of \$900,000 to \$1.2 million. Design cost is \$100,000 to \$135,000.

STORM SYSTEM: The storm drain system is old and consists almost entirely of vitreous clay pipe, which tends to disintegrate with age. The system is experiencing numerous pipe failures, which result in sink holes when ground water washes soil into the drains. No major improvements have been made to the storm drain system for decades.

RECOMMENDATIONS: Replace the storm drainage system piping with new PVC plastic pipe. Cost range is \$2.5 million to \$3 million construction and \$300,000 to \$360,000 for design.

ELECTRICAL SYSTEM: The electrical system has undergone two NRM projects to replace underground 5KV distribution cable and switches. There is one more similar project needed to complete this type of improvement to the center. In addition, there are overhead pole lines, which supply 33KV power from Connectiv to the VA's transformers for conversion to usable voltages. There is an ongoing project to repair these pole lines as per inspections and recommendations from the Army Corps of Engineers and Connectiv.

RECOMMENDATIONS: Proceed with phase 3 of the underground cable replacement at a cost of \$300,000 to \$450,000 (design-build). Continue to use the Army Corps of Engineers Prime Power group to assist with maintenance of high voltage system. Cost for this service is minimal (room and board for men only).